

57.73
4P6842

v. 32

ART. 7. FIRST RECORD OF THE GREEN SALAMANDER IN PENNSYLVANIA, AND OTHER RANGE EXTENSIONS IN PENNSYLVANIA, VIRGINIA AND WEST VIRGINIA*

BY NEIL D. RICHMOND

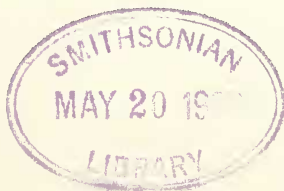
Since a new edition of the *Check List of North American Amphibians and Reptiles* is now in preparation, it appears desirable to report various specimens in Carnegie Museum that extend or better define the ranges of a number of eastern amphibians and reptiles.

Aneides aeneus (Cope)

During the twenty years since the green salamander was first found at Cooper Rock, West Virginia, sporadic efforts have been made to find it farther north. Since Cooper Rock is an outcrop of the Pottsville sandstone that also forms cliffs and ledges farther north along Chestnut Ridge, a study was made of the ridge from Cooper Rock to near Uniontown, Pennsylvania, in an effort to find the northern limits of *Aneides* and, if possible, to determine the limiting factors.

Chestnut Ridge is an anticlinal fold that dips to the north, finally disappearing about 50 miles north of the West Virginia state line. At the southern end, the crest of the ridge is 2,500 feet while at the northern end it is 2,000 feet and much narrower. Associated with the decrease in altitude, but not necessarily caused by it, is an abrupt change in the amount of precipitation. There is a decrease from an annual average of 46 inches near the West Virginia line to approximately 40 inches within a distance of 20 miles. The rock formations that were visited were generally more exposed and drier than those in West Virginia. An exception is the deep ravine on the western slope below Wymps Gap, which is cool, moist and forested with hemlock and maples. When I visited this site on August 3, 1951, there had been light showers all day and *Aneides* were beginning to come out on the face of the rocks at dusk. Of the 6 seen, 5 were collected. The rocks, here, are isolated blocks of Pottsville sandstone, similar to those at Cooper Rock but approximately 500 feet lower on the mountain. This

* Contribution No. 3 from the Pennsylvania Herpetological Survey, a project sponsored by the Sarah Mellon Scaife Foundation of Pittsburgh.



MAY 13 1952

ravine is about 10 miles northeast of Cooper Rock, the previous northernmost locality.

SPECIMENS EXAMINED:

Pa., Fayette Co., 5 mi. SE of Smithfield, Wymps Gap, 1,500 feet.
5, CM 29749-53

Plethodon richmondi Netting and Mittleman

In 1949, Harry R. Roslund and I found the ravine salamander to be abundant at Coburn, Centre County, Pennsylvania. This extends the known range 70 miles northeastward from its previous most eastern station (Everett, Bedford Co., Pa.) and establishes it as a part of the fauna of the Ridge and Valley Section of northcentral Pennsylvania. At Coburn, these salamanders were under small flat rocks and leaves on steep hillsides of clay soil overlying limestone ledges, in which habitat they were the most common salamander. The only other salamander associated with them was *Plethodon g. glutinosus*; no *P. c. cinereus* were found.

SPECIMENS EXAMINED:

Pa., Centre Co., Coburn, 1100 feet. 41, CM 29067 (41)
Pa., Bedford Co., 2 mi. E of Osterburg, top of Dunning Mt., 2,100 feet. 1, CM 29066

Pseudacris brachyphona (Cope)

Recent collections have delimited the northern and northwest limits of the upland chorus frog. Specimens from near Sigel, Jefferson County, Pennsylvania, extend the range 50 miles north of the Kiskiminitas River, the type locality and former northernmost station. They also demonstrate the presence of the species in the High Plateaus Section of northern Pennsylvania. A specimen from northern Beaver County along the Ohio state line establishes the presence of the species north of the Ohio River in extreme western Pennsylvania. To date, no specimens have been reported north of the glacial boundary in Pennsylvania, although the Beaver County locality is just south of the Wisconsin terminal moraine.

SPECIMENS EXAMINED:

Pa., Jefferson Co., 5.5 mi. NE of Sigel. 3, CM 28193-95
Pa., Beaver Co., 2 mi. N of Smith's Ferry, Bieler Run. 1, CM 26788

***Thamnophis brachystoma* (Cope)**

Recent collections of the small-headed garter snake clarify the limits of its range in Pennsylvania and emphasize that this form is a High Plateaus endemic. See Fig. 1.

Except for a few stations in the edge of the glaciated area, the range of *T. brachystoma* is restricted to one physiographic section, the Allegheny High Plateaus Section of the Appalachian Plateaus Province. This is bounded on the west and north by the Glaciated Section of the same Province. The few records from within the Glaciated Section are in areas where the glacial drift is thin and the topography is essentially similar to the unglaciated areas to the east.

Approximately three-fourths of the High Plateaus Section is drained by the Allegheny River and its tributaries. Only the eastern one-fourth lies within the Susquehanna drainage. It is noteworthy that no specimens of *brachystoma* have ever been taken in this eastern portion. Oddly enough, it does not appear to have been able to cross the low drainage divide.

Although *brachystoma* is abundant in the large valleys, it is not restricted either to valleys or to glacial outwash soils, and it is equally abundant on uplands away from large streams. East of the Allegheny River most of the plateau lacks glacial outwash deposits, even in the larger valleys.

The factors that operate to restrict the range of this snake present an interesting problem. Unlike many relict forms it is not restricted to isolated relict habitats such as bogs.

The western limits of the range are now well outlined by a series of localities. It is unlikely that the range will be extended much farther west, in view of the great amount of collecting that has been done over a half century in the vicinity of Pymatuning Swamp and Reservoir in western Crawford County and around Erie in Erie County. The eastern and southern limits are marked by several stations.

WESTERN STATIONS ARRANGED NORTH TO SOUTH:

- Pa., Erie Co., Corry (extreme SE corner of Erie Co.). 2, CM 29881-82
- Pa., Crawford Co., Titusville (extreme eastern Crawford Co.). 2, CM 29870-71
- Pa., Venango Co., 1 mi. NE of Franklin. 1, CM 27732
- Pa., Mercer Co., Sandy Lake. 1, CM 5472
- Pa., Mercer Co., 2-3 mi. N of Grove City on PA 78. 1, CM 28633

SOUTHERN STATIONS WEST TO EAST:

- Pa., Mercer Co., 2-3 mi. N of Grove City on PA 78. 1, CM 28633
 Pa., Clarion Co., Strattonville. 32, CM 28291-322

EASTERN STATIONS ARRANGED NORTH TO SOUTH:

- N. Y., Allegheny Co., Ceres. 2, CM 29645-46
 N. Y., Cattaraugus Co., Portville. 3, CM 29647-49
 Pa., McKean Co., 4 mi. NE of Clermont. 1, CM 28740
 Pa., McKean Co., Port Allegheny. 7, CM 5396-5402
 Pa., Elk Co., Portland Mills. 3, CM 28393-95

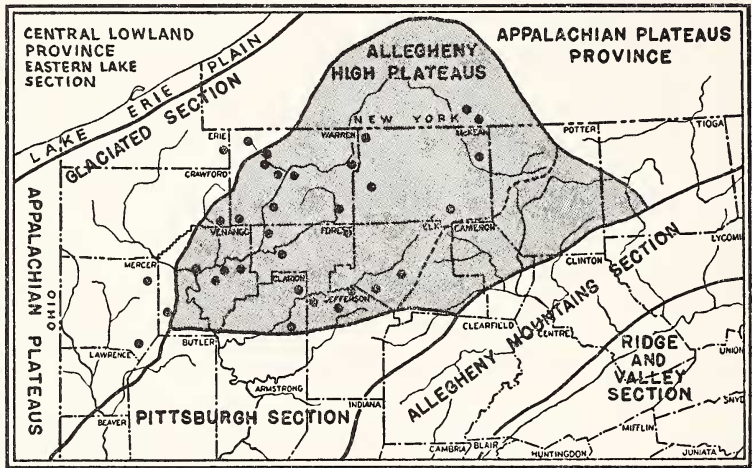


FIG. 1. Northwest Pennsylvania showing the distribution of *Thamnophis brachystoma* in relation to physiographic divisions (physiographic divisions after Pennsylvania Topographic and Geologic Survey). The dashed line represents the drainage divide between the Allegheny and Susquehanna rivers.

***Desmognathus quadramaculatus quadramaculatus* (Holbrook)**

The series of *D. q. quadramaculatus* in Carnegie Museum represent the most northern and eastern localities known for the black bellied salamander. Along the Allegheny Front, locally known as Peters Mountain, its range extends northward to Monroe County, West Virginia, and Allegheny County, Virginia, both in the James River drainage. It is also common at Mountain Lake, Giles County, Virginia, in the New River drainage. Eastward it is represented by one

specimen (CM 18101) from Spencer, Henry County, Virginia. This locality is on an outlier of the Blue Ridge and is in the Dan River system. It is also noteworthy that this specimen was taken at the unusually low altitude of 900 feet.

SPECIMENS EXAMINED:

- W. Va., Monroe Co., Potts Creek Valley. 3, CM 14374-76
 W. Va., Mercer Co., nr. Bluefield, Bluefield Reservoir. 31, CM 5662 (28), 8048-49, 15397
 Va., Alleghany Co., 1 mi. E of Potts Cr. P. O., 1,650 feet. 1, CM 26312
 Va., Giles Co., Mountain Lake, 3,800-4,000 feet. 63, CM 24050, 24044-46, 18494-95, 18464 (12), 17621-22, 14011 (10), 13991 (26), 13983 (9)
 Va., Craig Co., Peters Mt., W of Paint Bank. 2, CM 14365-66
 Va., Henry Co., Spencer, 900 feet. 1, CM 18101

***Pseudacris brimleyi* Brandt and Walker**

I have heard the Carolina chorus frog calling at three places in New Kent County, Virginia, 70 miles northwest of Dismal Swamp and north of the James River. The New Kent County localities are all within the Atlantic Coastal Plain. One is on the same coastal plain terrace as Dismal Swamp, the Pamlico, but the other two are on higher terraces, the Wicomico and Chowan.

In every breeding pool, *brimleyi* was greatly outnumbered by *Pseudacris nigrita feriarum*. The call resembles that of *Pseudacris brachyphona* and is easily heard above the rapid calls of *feriarum*. The males of *brimleyi* invariably called from well-concealed positions, usually in a tangle of briars or in piles of debris or brush lying in the shallow breeding ponds. Occasionally, they were found concealed in a tussock of grass. The calling position, although concealed from above, commanded a good view of the surface of the pool so that the calling male could be seen if the observer could get close enough to the surface of the water. By contrast, the *feriarum* in the same pools were calling from exposed positions around the shore and from partially submerged vegetation in the open water.

P. brimleyi was heard in a variety of breeding pools but appeared to be more abundant in those in woods or along the edge of woods. Although heard in many pools, collecting was successful in only one,

a large drainage ditch along a railroad. This ditch had been cleared of brush the previous fall and the only cover in it was grass. In the other pools the frogs were so well protected that they could escape even when it was possible to see them calling. In fact, of the 15 species of frogs and toads in New Kent County, *brimleyi* was the most difficult to collect.

SPECIMENS EXAMINED:

Va., New Kent Co., 2 mi. NW of Windsor Shades along us 60.
30 feet. 10, CM 18646